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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/877,773

06/08/2001

Huiqi Yin

10832/006

3941

7590

10/08/2003

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EXAMINER

STOCK JR, GORDON J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,773

Applicant(s)

YIN, HUIQI

Examiner

Gordon J Stock

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 16 is/are rejected.
- 7) ☒ Claim(s) 2, 10-15, 17-25 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The specification is objected to for the following: on line 26 of page 1, the phrase, "the laser induces," should read –laser induced--; on lines 5-10, it is unclear as to how Fig. 1 depicts the signal acceptance area being increased 40 times; on line 18 of page 3, the phrase, "manageable lever," should read –manageable level--. Corrections are required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: **64** and **44** of Fig. 5; 'A' of Figs. 1-4 and 7; (A, 0, L), (0,0,L), (-A, 0, L), (a, 0, f), (0,0,f), (-a, 0, f) of Fig. 1.; 'a' and '2a' of Fig. 4 A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 3, and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Preikschat et al. (4,871,251)**.

As for **claim 1**, Preikschat in an apparatus and method for particle analysis discloses the following: a light source, a laser diode; radiation optics coupled to the light source so that light

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emitted from the light source is directed toward a region on a sample surface; sampling optics situated to receive the backscattered light produced from the sample; an objective lens common to both the radiation optics and the sampling optics, a holder for the lens; and apparatus for moving the objective lens holder in a plane generally parallel to the sample surface (Figs. 15-18 ; cols. 15-18). As for a characteristic spectrum and spectral analyzer, Preikschat discloses multiple wavelengths and detectors for determining characteristics such as color and index of refraction (col. 18, lines 40-67; col. 19, lines 1-15). Therefore, it would be obvious to one skilled in the art at the time that Preikschat's multiple wavelength system comprised a spectral analyzer in order to determine characteristics such as color and refractive index by looking at two different spectral wavelengths backscattered. As for deviation and wavelength being known, the laser diode has a known radiating area and is monochromatic (col. 6, lines 3-15).

As for the phrase "so that the light emitted ... threshold of the sample," it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

As for **claim 3**, Preikschat also discloses a motor for vibrating the lens holder, a controller (col. 17, lines 35-50).

As for **claim 16**, Preikschat discloses a probe including a housing having an optical window and a light source, a laser diode; radiation optics coupled to the light source so that light emitted from the light source is directed toward a region on a sample surface; sampling optics situated to receive the backscattered light produced from the sample; an objective lens common to both the radiation optics and the sampling optics, a holder for the lens; and apparatus for

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moving the objective lens holder in a plane generally parallel to the sample surface (Figs. 13, 15-18 ; cols. 14-18). As for a characteristic spectrum and spectral analyzer, Preikschat discloses multiple wavelengths and detectors for determining characteristics such as color and index of refraction (col. 18, lines 40-67; col. 19, lines 1-15). Therefore, it would be obvious to one skilled in the art at the time that Preikschat's multiple wavelength system comprised a spectral analyzer in order to determine characteristics such as color and refractive index by looking at two different spectral wavelengths backscattered. As for deviation and wavelength being known, the laser diode has a known radiating area and is monochromatic (col. 6, lines 3-15).

As for the phrase "so that the light emitted ... threshold of the sample," it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

5. **Claims 4/1-9/1, and 4/3-9/3** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Preikschat et al. (4,871,251)** in view of **Kain et al. (5,847,400)**.

As for the radiation optics and sampling optics sharing a common filter for **claims 4/1 and 4/3**, Preikschat demonstrates one embodiment as having a beamsplitter that has a filtering function for it focuses solely the backscattered light onto the photodetector (Fig. 13; col. 14, lines 35-55). Kain in a laser scanning system demonstrates that the filter may reflect the source light to the sample rather than the light from the sample to the detector (Fig. 2, 23). Therefore, it would be obvious to one skilled in the art at the time the invention was made that the filter may reflect the source light to the sample rather than reflect the sample light to the detector through a mere rearrangement of the optical path.

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As for **claims 5/1 and 5/3**, Preikschat does not mention a bandpass filter in front of the light source, but Kain again does to reduce unwanted wavelengths (col. 5, lines 10-15).

Therefore, it would be obvious to one skilled in the art to have a bandpass filter in front of the light source to reduce unwanted wavelengths.

As for **claims 6/1 and 6/3**, Preikschat discloses a probe including a housing an optical window in his embodiments (Fig. 16).

As for **claims 7/1 and 7/3**, Preikschat is silent concerning a handle and trigger. However, Examiner takes official notice that handles for probes are well-known in the art for making objects easily portable, and triggers are well known in the art to be coupled to laser systems for proper laser control. Therefore, it would be obvious to one skilled in the art to have the probe comprise a handle for ease of transport of the probe, and for the laser diode to be coupled to a trigger for laser control.

As for **claims 8/1, 8/3, 9/1, 9/3**, Preikschat's drawing's suggest the following: an elongated rail and tubular member with longitudinal slot; a plurality of supports fixed to the rail upper surface for supporting optical elements, a backplate and nose cone (Figs. 1-3).

Allowable Subject Matter

6. **Claims 2, 4/2-15/2, 10/1-15/1, 10/3-15/3, and 17-19, 20/16-20/19, 21/16-21/19, 22/16-22/19, 23/16-23/19, 24/16-24/19, and 25/16-25/19** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to **claim 2**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for identifying the composition of a sample the objective lens is

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eccentrically mounted within the lens holder, and further comprising a motor for rotating the lens holder to achieve movement of the light on the sample surface, in combination with the rest of the limitations of **claims 2, 4/2-15/2**.

As to **claims 10/1 and 10/3**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for identifying the composition of a sample “a baffling tube fixed within the housing contiguous to the bandpass filter to form a segregated region within the housing for absorbing radiation reflected by the bandpass filter,” in combination with the rest of the limitations of **claims 10/1 and 10/3**.

As to **claims 11/1 and 11/3**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for identifying the composition of a sample “trigger is connected to said motor so that depression of the trigger causes movement of the objective lens holder in a plane generally perpendicular to an axis of the holder passing through the optical window, in combination with the rest of the limitations of **claims 11/1-15/1 and 11/3-15/3**.

As to **claim 17**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for identifying the composition of a sample the objective lens is eccentrically mounted within the lens holder, and further comprising a motor for rotating the lens holder to achieve movement of the light on the sample surface, in combination with the rest of the limitations of **claims 17-19, 20/17-20/19, 21/17-21/19, 22/17-22/19, 23/17-23/19, 24/17-24/19, and 25/17-25/19**.

As to **claim 20/16**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for identifying the composition of a sample “a trigger coupled

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to the light source and the motor,” in combination with the rest of the limitations of **claims 20/16-25/16**.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 5,978,083 to Müller

U.S. Patent 5,788,639 to Zavislan et al.

U.S. Patent 5,880,465 to Boettner et al

U.S. Patent 4,870,950 to Kanbara et al.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement “DRAFT” or “PROPOSED AMENDMENT” on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (703) 305-4787. The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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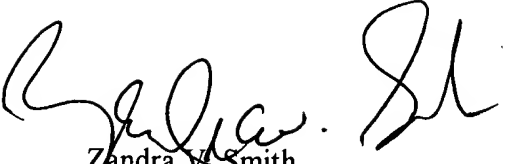
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September 28, 2003


Zandra V. Smith
Primary Examiner
Art Unit 2877